

CLAIMS

1. A peptide that comprises a modified tandem GnRH decapeptide sequence which allows for an immunogenic response that allows for discrimination between different types of GnRH, preferably between GnRH-I and GnRH-II.
2. A peptide that comprises a modified tandem GnRH decapeptide sequence which allows for a testosterone level that is essentially non-detectable after vaccination with the peptide in a suitable dosage.
3. A peptide according to claim 1 or 2 that comprises at least two coupled GnRH decapeptide sequences, optionally coupled through a spacer, wherein at least one of the amino acids is replaced by a different amino acid.
4. A peptide according to claim 1, 2 or 3, wherein the different amino acid is Ala.
5. A peptide according to claims 1-4 wherein the peptide is selected from the group consisting of:
pEHWAAYkLRPGQHWAYkLRPGC#, pEHWSYkLAPGQHWSYkLAPGC#,
and
pEHWSYkLRPAQHWSYkLRPAC#, preferably selected from the group
consisting of pEHWSYkLAPGQHWSYkLAPGC#
and
pEHWSYkLRPAQHWSYkLRPAC#.
6. A peptide according to claims 1-5 that is dimerised or multimerised.
7. A peptide according to claim 6, conjugated with a carrier compound.
8. A peptide according to claim 7, wherein the carrier compound is a protein.

9. A peptide according to claim 7 or 8, wherein the carrier compound is ovalbumin.

10. A vaccine comprising a peptide in accordance to any of claims 1-9.

11. A vaccine according to claim 10, additionally comprising an adjuvant.

12. A vaccine according to claim 11, wherein the adjuvant is an oil phase of a water-in-oil emulsion or a double oil emulsion.

13. A method for vaccinating a mammal against GnRH-I with a vaccine according to claims 10-12.

14. 13. A method according to claim 13, wherein the vaccine is a selective vaccine for vaccination against GnRH-I.

15. 14. A method for vaccinating a mammal according to claim 13 or 14, wherein the vaccine is administered in a single dose.

16. 15. A vaccine according to claims 10-12 that is sufficiently active for administration in a single dose for the essential immunocastration of pigs.

17. 16. A method to effect one or more reproductive or behavioral characteristics of a mammal, characterized in that said mammal is vaccinated in accordance with claims 13-15.

18. 17. A method for immunizing a mammal against GnRH, preferably GnRH-I, comprising vaccinating the mammal with a vaccine according to claim 16.

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18. A method to immunocastrate a pig, characterized in that said pig is vaccinated in accordance with claim 17 or 18.

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19. Antibodies against GnRH-II obtainable by a method comprising a step wherein an immuneresponse is elicited to a peptide according to claims 1-9.

²¹
20. A vaccine against GnRH-II comprising a peptide according to claims 1-9.

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21. Composition for the treatment of prostate cancer comprising a peptide according to claims 1-9.

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22. Use of a peptide according to claims 1-9 in the preparation of a pharmaceutical composition.

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23. Use of a peptide as defined in claims 1-9 for the preparation of a medicament for the treatment of prostate cancer.

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24. Method for the treatment of prostate cancer comprising administration of a suitable dose of a composition comprising a peptide that elicits an at least an immunogenic response against GnRH-II.

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